

# MPØ3 study result

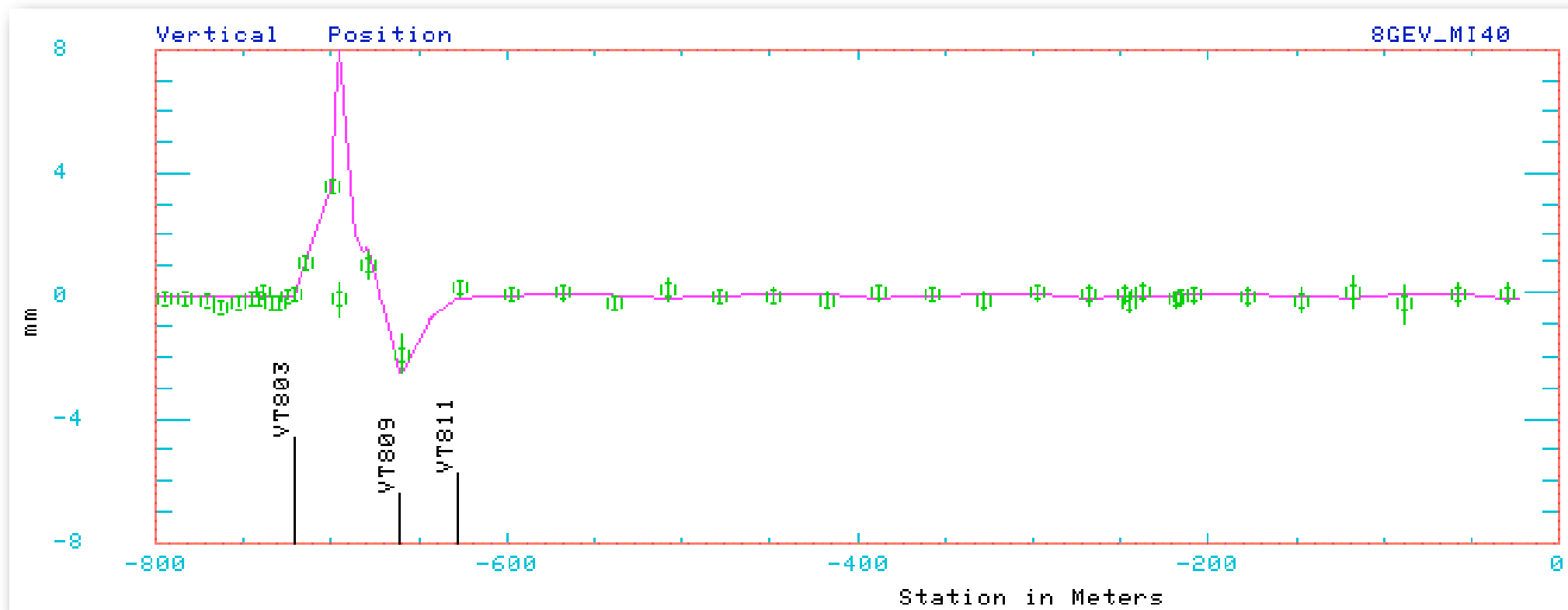
## ❖ Study setup on \$2E/\$15

- ▶ Use VT803/805/807/809/811 closed bump.
  - VT807 current is close to maximum.
- ▶ Use B:MKS09 & B:MKS10 to bump.
- ▶ Take BPM data + 4 Texas chambers.

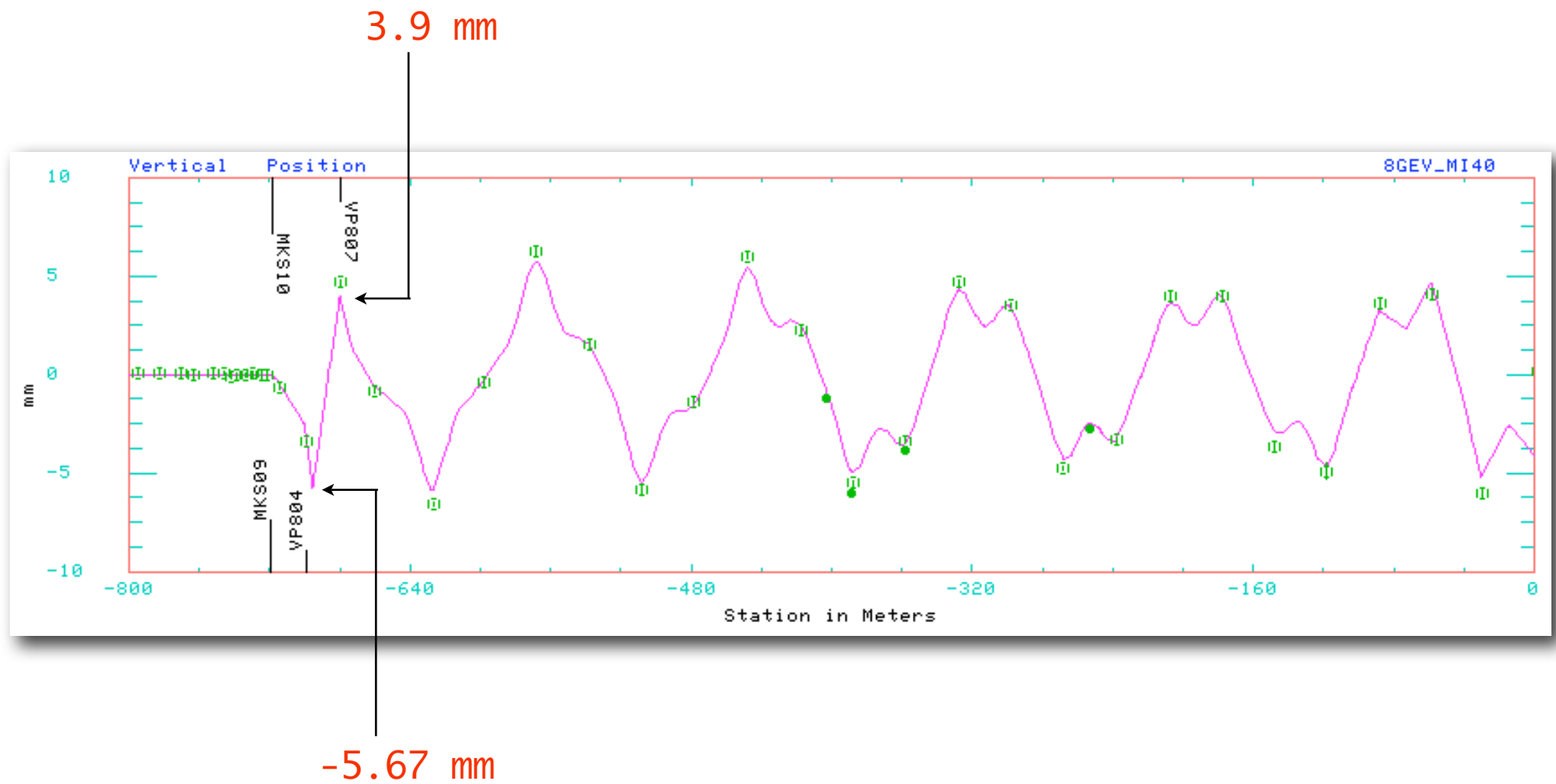
## ❖ Harmonic orbits

- ▶ 1st order
- ▶ 2nd order
- ▶ 3rd order

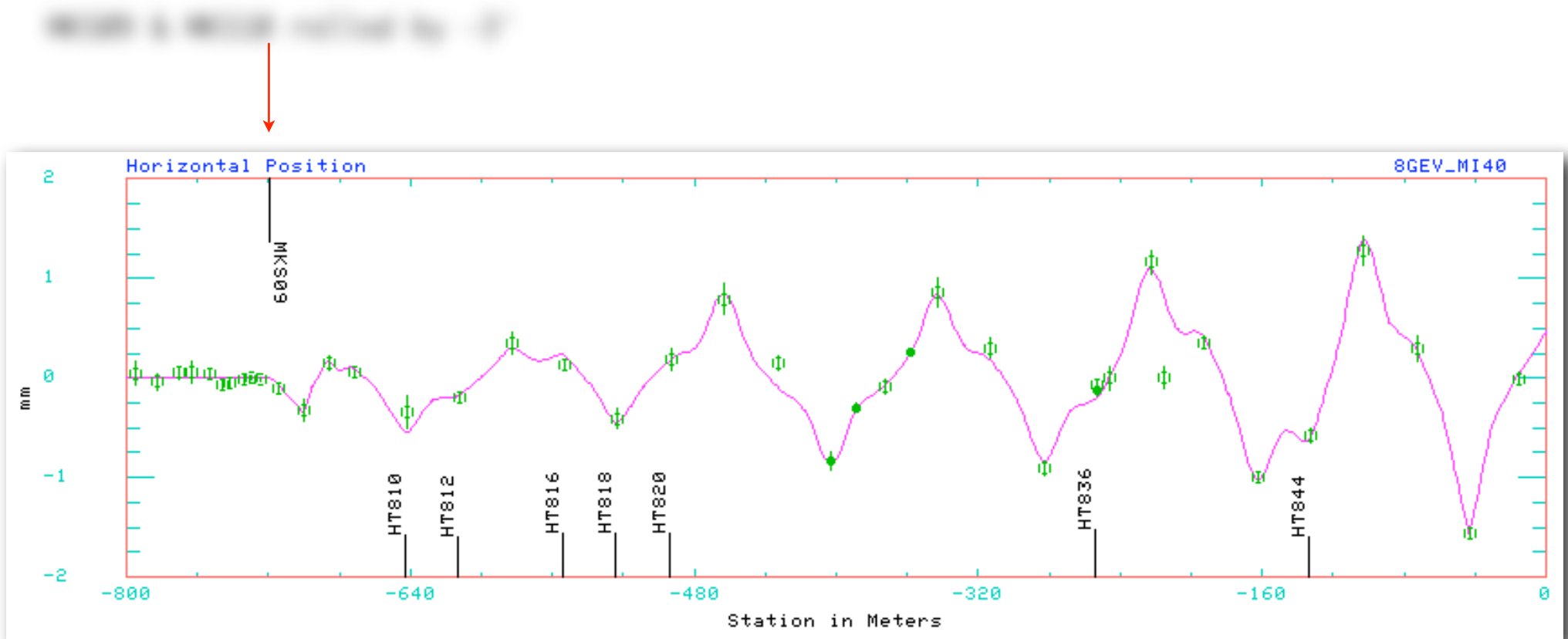
# Orbit bumped high at MPØ3



# First order orbit, vertical



# First order orbit, horizontal

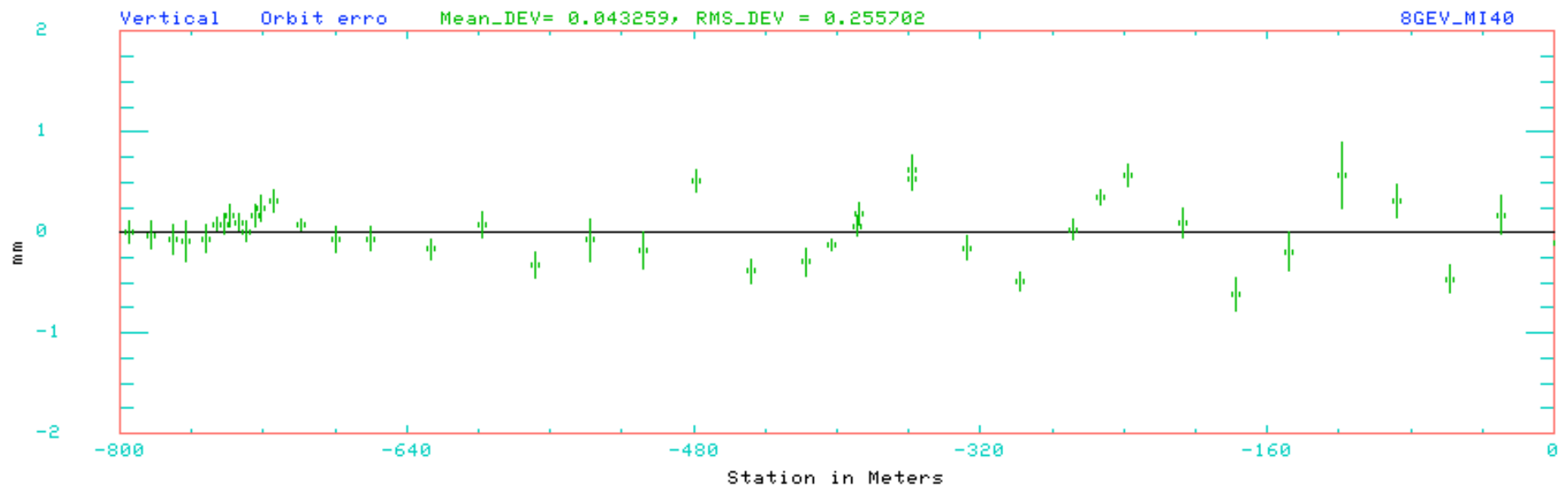
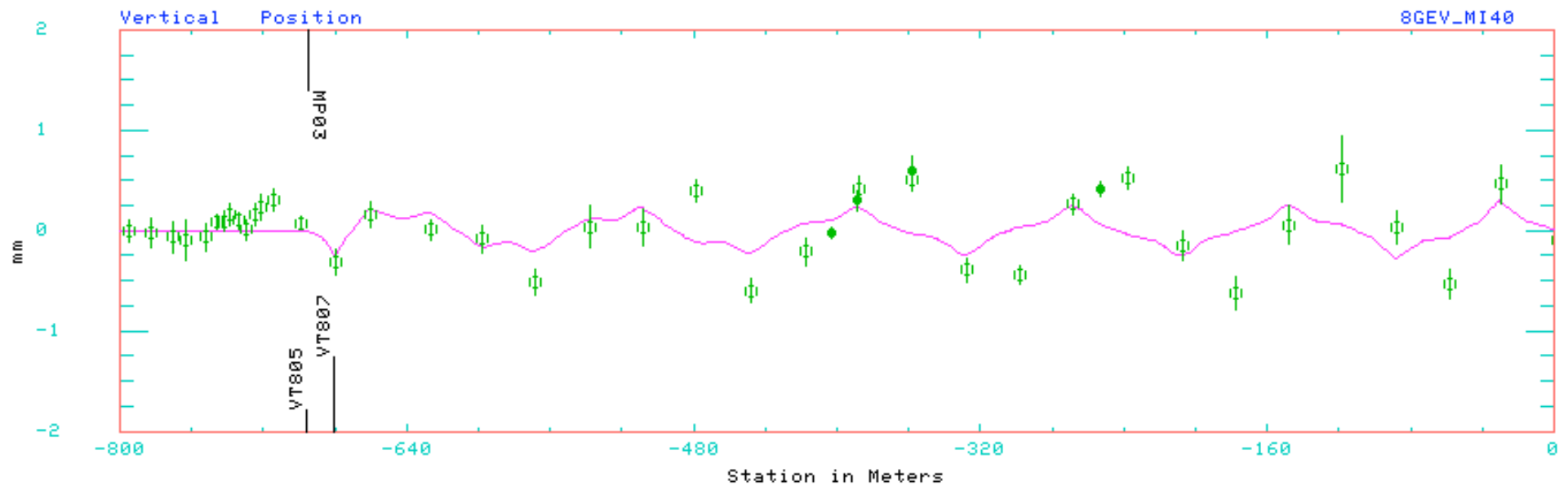


HT810@ -0.02 amp  
HT812@ -0.03 amp

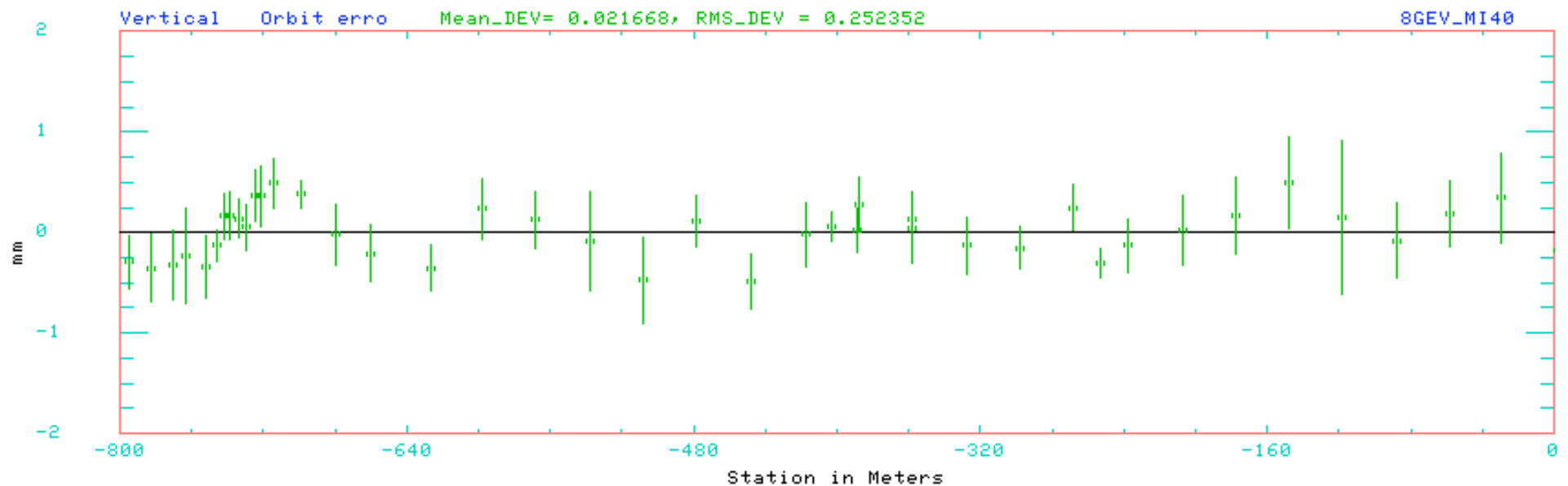
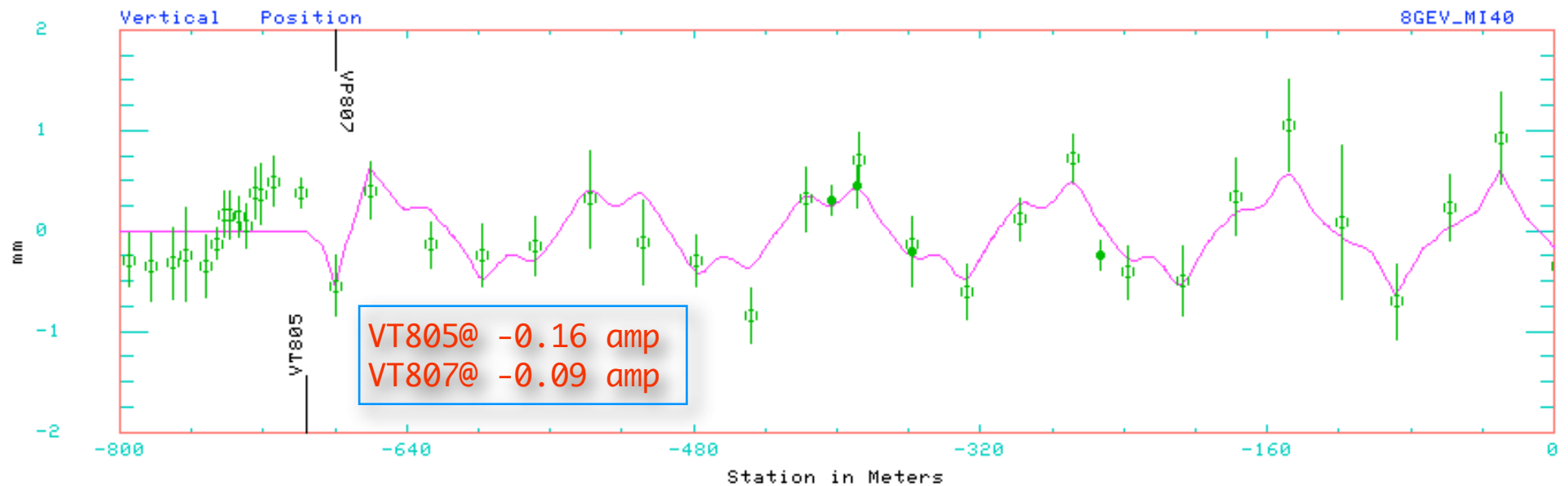
HT816@ -0.03 amp  
HT818@ 0.07 amp

HT836@ 0.06 amp  
HT844@ 0.02 amp

# 2nd order orbit



# Third order orbit



# Estimating octupole strength

$$\mathbf{B}(\Delta) = \frac{1}{6}B_3 \cdot \Delta^3$$

Given  $\mathbf{B}(\Delta) = 5.4 \text{ Gm}$   
at  $\Delta = 5.76 \text{ mm}$

We get:  $B_3 = 169228 \text{ kG m/m}^3$